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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

MEI, XU

ART UNIT

PAPER NUMBER

2615

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/03/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

08/936,344

Applicant(s)

EMBREE ET AL.

Examiner

Xu Mei

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-4 and 6-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-4 and 6-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This communication is responsive to the applicant's Pre-Brief Request dated 08/18/2006.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 2, 3, 6, 7, 9, 13, and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Oxford (US Patent 5,577,044).

Regarding Claim 3, Oxford discloses a method for allocating real-time data from a plurality of audio channels in a system having a first processor and a second processor, the method comprising: providing a plurality of memory banks of

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semiconductor memory devices (104), each memory bank being accessible to the first (102) and second (103) processors for operations selected from the group comprising read and write operations (col. 4, lines 20-22); and storing subsets of said audio data in the plurality of memory banks, the subsets corresponding to different groups of audio channels (memory 104 stores information for audio processor 103, Col. 4, lines 20-22, Fig. 3 discloses different audio channels). The computer system as disclosed by Oxford is one of the member of the IBM PC family, the general IBM PC is inherently including a plurality of memory banks as referred by Oxford as "the main memory 104" within the PC for multiple channels data storage as claimed. The data being stored within the main memory 104 are accessible thru connection to or coupled to bus to the first and second processors* (Col. 4, lines 21-25) for read and write operations. Furthermore, Oxford clearly discloses storing subsets of audio data in the plurality of memory banks wherein the subsets correspond to different groups of audio channels, as it is inherent that Oxford discloses processor 103 as an audio processor (Col. 4, line 22) and further discloses different audio channels in Fig. 3, and memory 104 stores information for audio processor 103 (Col. 4, lines 20-22; col. 9, line 56-col. 10, line 30).

Regarding Claim 6, Oxford discloses a system having first and second buses for processing real-time audio data from a plurality of audio channels, the system comprising: a first processor (102) and a second (103) processor coupled to said first and second busses (bus connecting 102 and 103 to bus 101), respectively; a plurality of memory banks (104) of semiconductor memory devices coupled to said first and second

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buses for storing said audio data (Col. 4, lines 17-18), said plurality of memory banks being accessible to the first and second processors for operations selected from the group comprising read and write operations (RAM or dynamic storage 104; col. 4, lines 17-21), said plurality of memory banks storing subsets of audio data (Col. 4, lines 17-24), said subsets corresponding to different groups of audio channels (Fig. 3 discloses different audio channels); and a plurality of selectors coupled said first and second buses to select said memory banks for access by one of said first and second processors (it is inherent that dynamic memory such as 104 will read or written based on a selector in processors 102 and 103 in order to store or retrieve information in memory 104). The computer system as discloses by Oxford is one of the member of the IBM PC family, the general IBM PC is inherently including a plurality of memory banks as referred by Oxford as "the main memory 104" within the PC for multiple channels data storage as claimed. The data being stored within the main memory 104 are accessible thru connection to or coupled to bus to the first and second processors (Col. 4, lines 21-25) for read and write operations. Furthermore, Oxford clearly discloses storing subsets of audio data in the plurality of memory banks wherein the subsets correspond to different groups of audio channels, as it is inherent that Oxford discloses processor 103 as an audio processor (Col. 4, line 22) and further discloses different audio channels in Fig. 3, and memory 104 stores information for audio processor 103 (Col. 4, lines 20-22; col. 9, line 56-col. 10, line 30).

Regarding Claims 2 and 7, it is inherent that dynamic memory such as 104 will read or written based on a selector in processors 102 and 103 in order to store or retrieve information in memory 104.

Regarding Claim 9, Oxford discloses the main memory 104 is dynamic memory (Col. 4, lines 13-25).

Regarding Claims 13 and 15, it is inherent that processors (102 and 103) will perform read operations and write operations on the memory banks in order to write and read stored audio data to and from the memory banks.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 4 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oxford as applied to claims 3 and 6 above in view of Van Nostrand (WO 90/07184).

Oxford discloses a method and system as stated apropos of claims 3 and 6 respectively but does not disclose one subset of the audio data corresponds to even-numbered audio channels and one other subset of said audio data corresponds to odd-numbered audio channels. Both Oxford and Van Nostrand discloses reception and transmission of data. Van Nostrand discloses separating data into Odd and Even data

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(Fig. 1) in order to provide a method for handling high speed data in an apparatus of having a plurality of banks of memory (page 3 lines 1-5). Therefore it would have been obvious to one of ordinary skill in the art that the time the invention was made to use odd and even data transmission to provide a way of transmitting data at a high rate of speed as taught by Van Nostrand.

6. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oxford as applied to claims 3 and 6 above in view of Fukami et al. (Hereinafter "Fukami") (US Patent 5,313,339).

Oxford discloses a method and system as stated apropos of claims 3 and 6 respectively but does not disclose storing the subsets in an interleaving manner. Fukami also discloses a method for transmitting and processing of data at a high rate of speed including storing right and left channels of digital audio in an interleaved process (Col. 4, lines 17-26) in order to processing signals at a high rate of speed. Therefore it would have been obvious to one of ordinary skill in the art that the time the invention was made to use interleaving of data in order to transmit and process data at a high rate of speed as taught by Fukami.

7. Claims 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oxford as applied to claims 3 and 6 above in view of Shores (US Patent 5,194,996).

Oxford discloses a method and system as stated apropos of claims 3 and 6 respectively but does not disclose storing one of the subsets of audio data in one of the memory banks and reading data from a second memory bank. Shores discloses interleaved audio data that is stored in one memory half and recovered from a second half of memory (Col. 10, lines 17-29). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to store one of the subsets of audio data in one of the memory banks and reading data from a second memory bank to interleave the audio data to enhance the decoding and reproduction as taught by Shores (Col. 9, lines 1-3).

Conclusion

8. Applicant's arguments with respect to claims 2-4 and 6-15 have been considered but are moot in view of the new ground(s) of rejection.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chang et al, Rimpo et al, Gulick et al are made of record here as pertinent art to the claimed invention.

Chang et al discloses the conventional IBM PC that having multiple memory banks in the computer system itself.

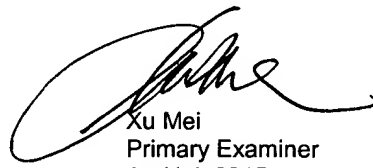
Rimpo et al discloses programmable memory addressing system that having multiple memory banks.

Gulick et al discloses computer system having separate digital and analog system chips (different processors) for improving performance.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xu Mei whose telephone number is 571-272-7523. The examiner can normally be reached on maxi flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Xu Mei
Primary Examiner
Art Unit 2615
12/23/2006